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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/787,303

03/16/2001

Kazuo Ishiwari

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08/28/2003

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EXAMINER

RHEE, JANE J

ART UNIT

PAPER NUMBER

1772

DATE MAILED: 08/28/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/787,303

Applicant(s)

ISHIWARI ET AL.

Examiner

Jane J Rhee

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 August 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3 and 9-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3, 9-17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☒ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. Claims 1-3,9-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ebnesajjad et al. (5683639).

Ebnesajjad et al. discloses a polytetrafluoroethylene molded article having a melt viscosity of at least 1×10^9 poise (col. 1 line 53) at 380°C (col. 3 line 7-8) wherein the polytetrafluoroethylene molded article is obtained by compression molding and backing a polytetrafluoroethylene powder obtained by suspension polymerization (col. 1 lines 37-39 and 56-62). Since Ebnesajjad et al. discloses the same composition, polytetrafluoroethylene at the same melt viscosity and temperature using the same method, it is inherent that the polytetrafluoroethylene molded article has a block deformation amount contained within a polygonal region surrounded by a straight line A: $x=1.0 \times 10^9$ (melt viscosity of 1.0×10^9 poise), a straight line B: $x=2.5 \times 10^{10}$ (melt viscosity of 2.5×10^{10} poise), a straight line C1: $y=-7.0$ (block deformation amount of 7.0%), a straight line D1: $y=0$ (block deformation amount of 0%), and a straight line E1: $y=-8.7\text{Log}_{10}(x)+91$ in a graph with an x-axis being a common logarithm of the melt viscosity (poise) at 380°C of polytetrafluoroethylene and a y axis being the block deformation amount(%) which is a weight loss until a stable film or sheet can be cut from the molded article. Ebnesajjad et al. discloses the polytetrafluoroethylene molded article above. Ebnesajjad et al. discloses that the molded article is cylindrical (col. 2 line 44) with a height of 89mm (col. 8 line 34-35). Ebnesajjad et al. discloses that the polytetrafluoroethylene powder in the polytetrafluoroethylene block shaped molded article

is a copolymer of tetra fluoroethylene and another fluromonomer (col. 3 lines 12-13). Ebnesajjad et al. discloses a perfluorovinylether of the formula that has a perfluoroalkyl group having 1-10 carbon atoms (col. 3 lines 12-13). Ebnesajjad et al. discloses a deformation degree of not more than 15% and not more than 1% (col. 4 lines 11-17). Ebnesajjad et al. fail to disclose that the height is at least 800mm or 20cm to 150cm. Ebnesajjad et al. fail to disclose a roundness degree of not more than 5% and not more than 0.3%. Ebnesajjad et al. fail to disclose a bend of not more than 2% and not more than 0.1%.

Ebnesajjad et al. teaches various sizes of cylindrical billets (col. 5 lines 14) therefore, it would have obvious to one of ordinary skill in the art at the time applicant's invention was made to have varied the height size, the roundness degree, and the degree of bend of the polytetrafluoroethylene molded article since such a modification would have involved a mere change in the size of a component. A change in size is generally recognized as being within the level of ordinary skill in the art. In re Rose, 105 USPQ 237, (CCPA 1955).

Also since applicant discloses that the diameter of the cylinder is between 10-100cm and Ebnesajjad et al. teaches a diameter of 7.6cm and since the roundness and bend degree formula is based on the cylindrical diameter, it would have been obvious to one of ordinary skill in the art at the time the invention was made to vary the roundness degree and degree of bend, since it has been held that discovering optimum or workable ranges involves only routine skill in the art in absence of unexpected results. In re Aller, 220 F.2d 454 105 USPQ 233 (CCPA 1955).

Response to Arguments

Applicant's arguments filed 8/1/03 have been fully considered but they are not persuasive.

In response to applicant's argument that Ebnesajjad fails to disclose or suggest how to make a PTFE cylinder having a length of at least 800 mm as in the present invention, while advantageously avoiding deformation problems which occur when producing PTFE articles of this large size, Ebnesajjad discloses cylindrical billets of various sizes were formed by compaction at room temperature under various pressures (col.5 lines 14-15) therefore, it would have been obvious to one having ordinary skill in the art at the time applicant's invention was made to varied the size of the height depending on the use of the cylindrical billet since such a modification would have involved a mere change of size of a component. Examiner would like to emphasize that a change in size is generally recognized as being within the level of ordinary skill art in absence of unexpected results. In re Rose, 105 USPQ 237, (CCPA 1955). As to applicant's present invention advantageously avoiding deformation problems, which occur when producing PTFE articles of this large size, Ebnesajjad discloses in col. 9 lines 41-42, that all billets were free from deformations, cracks, and discoloration.

In response to applicant's argument that the size of Ebnesajjad is much smaller than the molded article of the present claim 1 therefore the pressure applied to the bottom surface of the small billet is much smaller that the pressure applied to the bottom surface of the molded article having the height of 800mm, and furthermore the

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deformation amount of a billet having a small size near the bottom surface is very small but the deformation amount of a molded article having a large size near the bottom surface is very large, the present invention has substantially the same melt viscosity as disclosed by Ebnesajjad (col. 1 line 53) and states in col. 4 lines 11-15 that the amount of deformation that is acceptable is to some degree a function of the melt viscosity of PTFE, and that gravitational sag can occur for large articles molded from the resin having a melt viscosity at the low end of the range for PTFE. If Ebnesajjad and applicant's present invention have the same melt viscosity then the deformation amounts would be the same since Ebnesajjad teaches that the amount of deformation is to some degree a function of the melt viscosity of PTFE.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jane J Rhee whose telephone number is 703-605-4959. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Harold Pyon can be reached on 703-308-4251. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.

Jane Rhee
Jane Rhee

8/22/03

Harold Pyon
HAROLD PYON
SUPERVISORY PATENT EXAMINER
HP

8/24/03